

**REMARKS**

Applicants respectfully request reconsideration and withdrawal of the outstanding Office Action rejections based on the foregoing amendments and following remarks.

Claim 1 has been amended merely to comport the claims to previously presented arguments and to address the comments in the Office Action. No new matter has been added. Accordingly, Applicants respectfully request that the amendment be entered and favorably considered.

**Response to rejections under 35 U.S.C. § 102**

Claims 1-8 were rejected as anticipated by WO 03/020215 (hereinafter "Goldstein"). The Office contends that the reference inherently discloses a method comprising administering thymosin beta 4 to a subject. The Office acknowledges that Goldstein does not disclose treating or reducing extracellular matrix build-up, but asserts that this is an inherent treatment that would result when one practiced the method of Goldstein. Applicants submit that independent claim 1 has been amended merely in order to comport the claims to previously presented arguments and to address the comments in the Office Action. Accordingly, as amended, claim 1 recites:

In a subject with extracellular matrix build-up in a body tissue or a bodily fluid transport vessel, a method of treating or reducing said extracellular matrix build-up in a body tissue or a bodily fluid transport vessel comprising administering a composition comprising Thymosin  $\beta$ 4 (T $\beta$ 4) or oxidized T $\beta$ 4 in an amount effective so as to inhibit said extracellular matrix build-up in a body tissue or a bodily fluid transport vessel of said subject.

Applicants respectfully request that the amendment to claim 1 be entered because it merely puts the claims in better condition for allowance commensurate with previously presented arguments.

The relevant case law teaches that, for a claim to be inherently anticipated, all of the claimed elements, arranged as in the claim, must be disclosed in a single prior art reference. "Anticipation requires the presence in a single prior art disclosure of all elements of a claimed invention arranged as in the claim." *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1548 (Fed. Cir. 1983). See also *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1371 (Fed. Cir. 2008) (emphasis added) ("...unless a reference discloses within the four corners of the document not only all of the limitations claimed but also all of the limitations arranged or combined in the same way as recited in the claim, it cannot be said to prove prior invention of the thing claimed and, thus, cannot anticipate under 35 U.S.C. § 102."). Inherency analysis turns on whether the asserted inherency is "necessarily present" in the cited art. "Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient." *Cont'l Can Co. USA, Inc. v. Monsanto Co.*, 948 F.2d 1264, 1269 (Fed. Cir. 1991) (quoting *In re Oelrich*, 666 F.2d 578, 581 (CCPA 1981)).

Here, Applicants submit that the cited reference does not disclose the features and steps of independent claim 1. While the cited reference discloses the administration of Tβ4 to subjects in need of healing or prevention of damage to coronary tissue, it does not disclose the administration of Tβ4 to subjects with extracellular matrix build-up in a body

tissue or a bodily fluid transport vessel. The present claims are directed to treating a group of subjects that is not contemplated by the cited reference. Moreover, the subject group of Goldstein does not inherently fall into the subject group recited in claim 1 because a subject with extracellular matrix build-up in a body tissue or a bodily fluid transport vessel is not "necessarily present" in the subjects contemplated by Goldstein's method. Because all of the claimed elements, arranged as in the claim, are not explicitly, implicitly, or inherently found in the cited reference, Applicants respectfully submit that independent claim 1 is not anticipated. Claims 2-8, depending from claim 1, are believed to not be anticipated by the cited reference for at the same reasons. Accordingly, Applicants respectfully request that the rejection be withdrawn.

Response to rejections under 35 U.S.C. § 103

Claims 1-8, 10-14 and 18 were rejected as obvious over Goldstein, which is discussed above. The Office contends that even though Goldstein does not disclose the features of claims 10-14 and 18, that it would have been obvious to modify Goldstein according to any one of claims 10-14 and 18 as a matter of “judicious selection and routine optimization.” Applicants submit that independent claim 1 has been amended to overcome the rejection by comports it to previously presented arguments. Accordingly, as amended, claim 1 recites:

In a subject with extracellular matrix build-up in a body tissue or a bodily fluid transport vessel, a method of treating or reducing said extracellular matrix build-up in a body tissue or a bodily fluid transport vessel comprising administering a composition comprising Thymosin  $\beta$ 4 (T $\beta$ 4) or oxidized T $\beta$ 4 in an amount effective so as to inhibit said extracellular matrix build-up in a body tissue or a bodily fluid transport vessel of said subject.

While the cited reference discloses the administration of T $\beta$ 4 to subjects in need of healing or prevention of damage to coronary tissue, it does not disclose the administration of T $\beta$ 4 to subjects with extracellular matrix build-up in a body tissue or a bodily fluid transport vessel. The present claims are directed to treating a group of subjects that is not contemplated by the cited reference. Moreover, the subject group of Goldstein does not inherently fall into the subject group recited in independent claim 1 because a subject with extracellular matrix build-up in a body tissue or a bodily fluid transport vessel is not necessarily present in the subjects contemplated by Goldstein's method. Thus, the claimed elements, arranged as in the claim, are not explicitly, implicitly, or inherently found in or suggested by the cited reference. Applicants

respectfully submit that independent claim 1 is not rendered obvious by Goldstein.

Claims 2-8, 10-14 and 18 depending from claim 1, are believed to not be rendered obvious by the cited reference for at the same reasons. Accordingly, Applicants respectfully request that the rejection be withdrawn for at least these reasons.

The Supreme Court has established the appropriate analysis and standards for analyzing obviousness in *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 416 (2007) (holding that a patent shall be invalid only if "[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results."). "[A] court must ask whether the improvement is more than the predictable use of prior art elements according to their established functions." *Id.* at 417. Here, Applicants submit that the claimed method is not a predictable use or modification of the method disclosed in Goldstein. Applicants respectfully submit that Goldstein does not explicitly, implicitly, or inherently disclose or suggest the features of independent claim 1, as amended for at least the following reasons.

1. Goldstein does not disclose or suggest that the subject to be treated is a subject with extracellular matrix build-up in a body tissue or a bodily fluid transport vessel.
2. Goldstein does not disclose or suggest treating or reducing extracellular matrix build-up in a subject with extracellular matrix build-up in a body tissue or a bodily fluid transport vessel.

3. Goldstein does not disclose or suggest administering to a composition comprising Thymosin  $\beta$ 4 (T $\beta$ 4) or oxidized T $\beta$ 4 to a subject with extracellular matrix build-up in a body tissue or a bodily fluid transport vessel.
4. Goldstein does not disclose or suggest administering to a composition comprising Thymosin  $\beta$ 4 (T $\beta$ 4) or oxidized T $\beta$ 4 to a subject with extracellular matrix build-up in a body tissue or a bodily fluid transport vessel in an amount effective so as to inhibit said extracellular matrix build-up in a body tissue or a bodily fluid transport vessel of said subject.

In order to make out a case of obviousness, the United States Patent and Trademark Office has the initial burden to make a showing that the invention as a whole would have been obvious to a person of skill in the relevant art at the time the invention was made. See M.P.E.P. §§ 2141-2142; see also *KSR*, 550 U.S. 398, 405. The patent applicant is entitled to a patent unless the Office can show “that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art...” 35 U.S.C. § 103(a). In analyzing the invention as a whole, one must consider all the limitations of the claims rather than merely the “gist” of the invention. See M.P.E.P. §§ 2141.02 (II), 2143.03; *W.L. Gore & Assoc., Inc. v. Gadock, Inc.*, 721 F.2d 1540 (Fed. Cir. 1983), cert. den. 469 U.S. 851 (1984); see also *Bausch & Lomb v. Barnes-Hind/Hydrocurve, Inc.*, 796 F.2d 443, 447-449 (Fed. Cir. 1986), cert. den., 484 U.S. 823 (1987). M.P.E.P. § 2141.02(V) provides that “it is [the] invention as a

*whole*, and not some part of it, which must be obvious under 35 U.S.C. § 103.” (quoting *In re Antonie*, 559 F.2d 618, 620, 195 USPQ 6,8 (CCPA 1977) (emphasis in original) (citations omitted)) . Applicants respectfully submit that the Office cannot make out a case of *prima facie* obviousness against independent claim 1 as amended, or against the dependent claims, which contain all the elements of independent claim 1. Accordingly, Applicants respectfully request reconsideration and withdrawal of the § 103(a) rejection based on at least the above reasons.

Recently, the Federal Circuit again confirmed that, where a person of ordinary skill would not have drawn a connection a claimed treatment and a prior art treatment, process claims drawn to using a known compound for the claimed treatment are not rendered obvious by the prior treatment using the same compound. See *Eli Lilly & Co. v. Teva Pharmaceuticals USA, Inc.*, 619 F.3d 1329, 1338 (Fed. Cir. 2010) (finding a patent for treating autoimmune disease using raloxifene did not render a patent drawn to treating osteoporosis using raloxifene obvious because no credible connection between the diseases was established). Here, the Office has not established a nexus between treating or reducing extracellular matrix build-up in a subject with extracellular matrix build-up in a body tissue or a bodily fluid transport vessel and effecting tissue and wound repair or healing. In the absence of such a connection, the most recent case law teaches that a *prima facie* case of obviousness is not established. Accordingly, Applicants

respectfully request reconsideration and withdrawal of the § 103(a) rejection based on these further reasons.

Further, with regard to claim 13, Applicants submit that there is no suggestion in Goldstein of a method to treat, prevent, inhibit or reduce stenosis or restenosis in said subject by treating or reducing extracellular matrix build-up in a subject with extracellular matrix build-up in a body tissue or a bodily fluid transport vessel, comprising administering to a composition comprising Thymosin  $\beta 4$  (T $\beta 4$ ) or oxidized T $\beta 4$  to said subject in an amount effective to inhibit said extracellular matrix build-up in a body tissue or a bodily fluid transport vessel of said subject. Accordingly, Applicants respectfully request reconsideration and withdrawal of the § 103(a) rejection of claim 13 based on these further reasons.

With regard to claim 14, Applicants submit that there is no suggestion in Goldstein of the step of administering T $\beta 4$  prior to, during or following angioplasty in the subject with extracellular matrix build-up in a body tissue or a bodily fluid transport vessel. Applicants respectfully request reconsideration and withdrawal of the § 103(a) rejection of claim 14 based on these further reasons.



With regard to claim 18, Applicants submit that there is no suggestion in Goldstein to treat, prevent, inhibit or reduce stenosis or restenosis in the subject with extracellular matrix build-up in a body tissue or a bodily fluid transport vessel by treating or reducing extracellular matrix build-up in the subject by administering a composition comprising Thymosin  $\beta$ 4 (T $\beta$ 4) or oxidized T $\beta$ 4 in combination with at least one plaque-reducing agent or cholesterol-reducing agent to said subject in an amount effective to inhibit said extracellular matrix build-up in a body tissue or a bodily fluid transport vessel of said subject. Applicants respectfully request reconsideration and withdrawal of the § 103(a) rejection of claim 18 based on these further reasons.

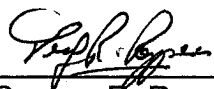
Conclusions

In view of the above remarks, Applicants now request reconsideration of the claims presented here and an indication of allowability of all of the examined claims. Separate and individual consideration of the pending dependent claims is respectfully requested. Early and favorable action is requested.

The Director is authorized to charge any fees or overpayment to Deposit Account No. 02-2135.

The Examiner is invited to telephone the undersigned if it is deemed to expedite allowance of the application.

Respectfully submitted,

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